Source Water Assessment Report

Public Water Supply: DICKINSON CO RWD 1

Assessment Areas Include:
894, 895, 896

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Reports were generated with the Automated Source Water Assessment Tool (ASWAT). Assessments were completed online using ASWAT by hundreds of state employees, public water supply staff, and technical assistant providers throughout the State of Kansas.

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Report Description

Detailed Explanation of Entire Report:

The 1996 amendments to the Safe Drinking Water Act require each state to develop a Source Water Assessment Program (SWAP) and a Source Water Assessment (SWA) for each Public Water Supply (PWS) that treats and distributes raw source water. In Kansas there are 761 public water supplies that require SWAs. A SWA includes a delineation of the source water assessment area, an inventory of potential contaminant sources, and a susceptibility analysis.

A PWS can consist of one or more individual assessment areas that require different assessments. In general, an assessment area is delineated at a two−mile fixed radius for a groundwater well. A surface water intake assessment area is the upstream−drainage area (watershed), inside the state border. Additionally, an assessment area can consist of an individual well, group of wells, an individual surface water intake, or multiple surface water intakes.

After each assessment is completed a report is automatically generated using an Internet−based application called the Automated Source Water Assessment Tool (ASWAT). The individual assessment reports combine to form the entire SWA report for a PWS.

A map of each Assessment Area was also generated with ASWAT. However, for security reasons the maps are not included in this report. To obtain a copy of the map(s), please contact your local PWS.

All PWS reports will be available for viewing and downloading on KDHE's Watershed Management Section website(http://www.kdhe.state.ks.us/nps) in 2004.

DICKINSON CO RWD 1 Summary:

AA	Type	Diversion Id
894	Ground water multiple wells	009, 010
895	Ground water multiple wells	008, 007
896	Ground water multiple wells	001, 004, 005, 006, 002

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **894**
Diversion Id's: **009, 010**
Status: **Accepted**
Submit Date: **2003−01−28 08:23:36**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication − phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi−quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **DICKINSON CO RWD 1**
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Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score − SLS	44	38	40	44	39	42
SLS Range	Low	Low	Low	Low	Low	Low

A − Microbiolgical
B* − Nitrates
C* − Pesticides
B − Inorganic Compounds
C − Synthetic Organic Compounds
D − Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0−50	**Low Susceptibility**
51−80	**Moderate Susceptibility**
81−100	**High Susceptibility**

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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a100−foot radius around a groundwater well and a 1000−foot radius around a surface water intake. Zone B is a 2000−foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2−mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **DICKINSON CO RWD 1**
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Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
199519	Cattle Farm	211	C
195655	Animal Specialty Services	752	C
195660	Animal Specialty Services	752	C
199520	Farm and Garden Machinery	5083	C
199518	Sporting and Recreational Camps	7032	C
199522	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2002388	White, Randy	A−SHDK−B013	B
2001897	Peterson, Arden	A−SHDK−B017	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000716	ROOF FARM (SOLOMON ELECTRIC DUMP SITE)	C502100035	C

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **DICKINSON CO RWD 1**
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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000354	Old Windmill	10029	B
9000201	rural residence	10066	B
9000202	rural residence	10066	B
9000336	rural residence	10066	B
9000767	septic system	10067	B
9000769	septic system	10067	B
9000771	septic system	10067	B
9000774	septic system	10067	B
9000355		10080	B
9000359	Farm	10080	B
9000008	dog kennel	752	B
9000768	greyhound farm	752	B
9000770	greyhound farm	752	B
9000773	greyhound farm	752	B
9000356	rural residence	10008	C
9000357	rural residence	10008	C
9000360	abandoned water well	10008	C
9000364		10008	C
9000371	Crop Farm	10012	C
9000353	Interstate 70	10036	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000006	rural residence	10066	C
9000271	rural residence	10066	C
9000304	rural residence	10066	C
9000365	rural residence	10066	C
9000366		10066	C
9000367	rural residence	10066	C
9000772	septic system	10067	C
9000775	septic system	10067	C
9000361	farm	10080	C
9000370	Horse Farm	10080	C
9000362	rural residence	211	C
9000358	Dog and Cat Boarding Kennel	752	C
9000737	dog kennel	752	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number or sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
3	1	5	0	1	3

A − Microbiolgical
B* − Nitrates
C* − Pesticides
B − Inorganic Compounds
C − Synthetic Organic Compounds
D − Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A − Microbiolgical **B** − Inorganic Compounds **B1** − Eutrophication − Phosphorous
B2 − Sedimentation **B*** − Nitrates **C** − Synthetic Organic Compounds
C* − Pesticides **D** − Volatile Organic Compounds

Potential Contaminants Listing

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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C*
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
5083	Farm and Garden Machinery	inorganics	B

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **DICKINSON CO RWD 1**
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Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
211	Cattle Farm	Sanitary, Fertilizers TSS, pesticides, Erosion and sedimentation	Proper application of fertilizers and pesticides. Proper cleaning of equipment and disposal of chemicals. Maintain riparian areas along waterways and keep cattle out of these areas. Proper Waste Management and Grazing Management.	KDHE−Livestock Waste Management Section, KAR 28−16, KDA, County Soil Conservation District, NRCS
7032	Sporting and Recreational Camps	sanitary, fertilizers, pesticides	Discharge to POTW. Minimize use of lawn chemicals	KAR 28−5
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **DICKINSON CO RWD 1**
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Ground Water Multiple Wells Analysis

A − Microbiolgical **B** − Inorganic Compounds
B* − Nitrates **C** − Synthetic Organic Compounds
C* − Pesticides **D** − Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	Yes	1	1	1	1	1	1
5	Does a PWS own or control all the areas around the wells?	No	1	1	1	1	1	1
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
11	Are any non−farm home sites present in Zone B?	Yes	1	0	1	0	1	0
12	Do all the non−farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
13	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
14	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	No	0	0	0	0	0	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
29	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	No	0	0	0	0	0	0
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
33	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	Yes	0	0	0	0	0	0
37	Are cropland pesticide management plans in place?	Yes	0	0	0	0	0	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **DICKINSON CO RWD 1**
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Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
199518	On site Wasterwater system and private water well	Pat Bowell
199519	Move feedlot 1/4 mile West	Pat Bowell

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
White, Randy	2002388	actual location of Randy White CAFO is 1/4 mile to the west (outside of zone B)	David Gurss

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
ROOF FARM (SOLOMON ELECTRIC DUMP SITE)	7000716	Salvage materials visible from road	Pat Bowell

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **DICKINSON CO RWD 1**
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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Crop Farm	9000371	1200 ft pivot irrigation	Pat Bowell
Dog and Cat Boarding Kennel	9000358	Dog and cat boarding kennel	Pat Bowell
Farm	9000359	Seasonal grazing livestock	Pat Bowell
Horse Farm	9000370	Grazing horses for breeding farm on north side of road. Probably private water well and old on−site wastewater system.	Pat Bowell
Interstate 70	9000353	Heavy interstate vehicular traffic	Pat Bowell
Old Windmill	9000354	Old windmill	Pat Bowell
abandoned water well	9000360	Abandoned farmstead	Pat Bowell
dog kennel	9000008	greyhound farm and house	David Gurss
dog kennel	9000737	Concentration of several greyhound farms. All residences use onsite wastewater systems and private water wells.	David Gurss
farm	9000361	Seasonal Grazing livestock	Pat Bowell

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
greyhound farm	9000768	greyhound farm	David Gurss
greyhound farm	9000770	greyhound farm	David Gurss
greyhound farm	9000773	greyhound farm	David Gurss
rural residence	9000006	new house using a septic system	David Gurss
rural residence	9000201	on−site wastewater; private water well	David Gurss
rural residence	9000202	onsite wastewater system and private water well	David Gurss
rural residence	9000271	onsite wastewater system and private water well	David Gurss
rural residence	9000304	onsite wastewater system and private water well	David Gurss
rural residence	9000336	On site wastewater system and private water well	Pat Bowell
rural residence	9000356	Onsite Wastewater system and private water well	Pat Bowell
rural residence	9000357	Onsite Wastewater System and private water well	Pat Bowell
rural residence	9000362	Private water well and Residential On−site wastewater system	Pat Bowell

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
rural residence	9000365	Onsite Wastewater system, private water well and a few horses	Pat Bowell
rural residence	9000367	Private water well, residential on−site wastewater system and horse breeding farm	Pat Bowell
septic system	9000767	septic system	David Gurss
septic system	9000769	septic system	David Gurss
septic system	9000771	septic system	David Gurss
septic system	9000772	septic system	David Gurss
septic system	9000774	septic system	David Gurss
septic system	9000775	septic system	David Gurss
Unknown	9000355	Occasional grazing livestock	Pat Bowell
Unknown	9000355	Occasional grazing livestock	Pat Bowell
Unknown	9000355	occasional grazing	Pat Bowell
Unknown	9000364	Onsite wastewater system and private water well	Pat Bowell

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Unknown	9000366	Onsite wasterwater system and private water well	Pat Bowell

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

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Comments for Analysis Questions

Analysis Question	Question Comments	Author
Is there a contaminated well in Zone B?	Unknown	David Gurss
Is there livestock confinement in Zone B?	Randy White feedlot is located outside Zone B	David Gurss
Is an irrigation well located in Zone B or C?	One known in Zone C	David Gurss
Are there unplugged, abandoned water wells present in Zone C?	Unknown, but likely, given that Zone C covers over 12 square miles.	David Gurss
Are cropland nutrient management plans in place?	Most have plans in place because most of Zone C is in the Sand Springs Aquifer recharge area, which was an EQIP priority area. There is no cropland in Zone B.	David Gurss
Are cropland pesticide management plans in place?	Most have plans in place because most of Zone C is in the Sand Springs Aquifer recharge area, which was an EQIP priority area. There is no cropland in Zone B.	David Gurss

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Assessment Area:	**895**
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Submit Date:	**2003−01−28 08:47:58**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication − phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi−quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score − SLS	41	35	40	40	39	38
SLS Range	Low	Low	Low	Low	Low	Low

A − Microbiolgical
B* − Nitrates
C* − Pesticides
B − Inorganic Compounds
C − Synthetic Organic Compounds
D − Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0−50	Low Susceptibility
51−80	Moderate Susceptibility
81−100	High Susceptibility

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**
Diversion Id's: **008, 007**
Status: **Accepted**
Submit Date: **2003−01−28 08:47:58**

Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a100−foot radius around a groundwater well and a 1000−foot radius around a surface water intake. Zone B is a 2000−foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2−mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
195655	Animal Specialty Services	752	C
195660	Animal Specialty Services	752	C
199518	Sporting and Recreational Camps	7032	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2001897	Peterson, Arden	A−SHDK−B017	C
2002388	White, Randy	A−SHDK−B013	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3002136	Sw Bell Telephone, Talmage	28766	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000716	ROOF FARM (SOLOMON ELECTRIC DUMP SITE)	C502100035	C

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Public Water Supply:	**DICKINSON CO RWD 1**
Assessment Area:	**895**
Diversion Id's:	**008, 007**
Status:	**Accepted**
Submit Date:	**2003−01−28 08:47:58**

Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000354	Old Windmill	10029	B
9000201	rural residence	10066	B
9000202	rural residence	10066	B
9000336	rural residence	10066	B
9000355		10080	B
9000359	Farm	10080	B
9000008	dog kennel	752	B
9000356	rural residence	10008	C
9000357	rural residence	10008	C
9000360	abandoned water well	10008	C
9000364		10008	C
9000371	Crop Farm	10012	C
9000353	Interstate 70	10036	C
9000006	rural residence	10066	C
9000271	rural residence	10066	C
9000304	rural residence	10066	C
9000365	rural residence	10066	C
9000366		10066	C
9000367	rural residence	10066	C
9000361	farm	10080	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000370	Horse Farm	10080	C
9000362	rural residence	211	C
9000363	Natural Gas pipeline	4600	C
9000358	Dog and Cat Boarding Kennel	752	C
9000737	dog kennel	752	C

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**
Diversion Id's: **008, 007**
Status: **Accepted**
Submit Date: **2003−01−28 08:47:58**

Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number or sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
2	0	2	0	0	2

A − Microbiolgical
B* − Nitrates
C* − Pesticides
B − Inorganic Compounds
C − Synthetic Organic Compounds
D − Volatile Organic Compounds

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**
Diversion Id's: **008, 007**
Status: **Accepted**
Submit Date: **2003−01−28 08:47:58**

Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A − Microbiolgical **B** − Inorganic Compounds **B1** − Eutrophication − Phosphorous
B2 − Sedimentation **B*** − Nitrates **C** − Synthetic Organic Compounds
C* − Pesticides **D** − Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
752	Animal Specialty Services	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*

Public Water Supply:	**DICKINSON CO RWD 1**
Assessment Area:	**895**
Diversion Id's:	**008, 007**
Status:	**Accepted**
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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7032	Sporting and Recreational Camps	sanitary, fertilizers, pesticides	Discharge to POTW. Minimize use of lawn chemicals	KAR 28−5
752	Animal Specialty Services	Sanitary, fertilizers	Collect and treat wastes.	NA

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**
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Status: **Accepted**
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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Ground Water Multiple Wells Analysis

A − Microbiolgical **B** − Inorganic Compounds
B* − Nitrates **C** − Synthetic Organic Compounds
C* − Pesticides **D** − Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	No	1	1	1	1	1	1
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
11	Are any non−farm home sites present in Zone B?	Yes	1	0	1	0	1	0
12	Do all the non−farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
13	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
14	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
29	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	No	0	0	0	0	0	0
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
33	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	Yes	0	0	0	0	0	0
37	Are cropland pesticide management plans in place?	Yes	0	0	0	0	0	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**
Diversion Id's: **008, 007**
Status: **Accepted**
Submit Date: **2003−01−28 08:47:58**

Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Comments for Unregulated Sites

Potential Contaminant Site No.	Site Comments	Author
199518	On site Wasterwater system and private water well	Pat Bowell

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
White, Randy	2002388	actual location of Randy White CAFO is 1/4 mile to the west (outside of zone B)	David Gurss

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
ROOF FARM (SOLOMON ELECTRIC DUMP SITE)	7000716	Salvage materials visible from road	Pat Bowell

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply:	**DICKINSON CO RWD 1**
Assessment Area:	**895**
Diversion Id's:	**008, 007**
Status:	**Accepted**
Submit Date:	**2003−01−28 08:47:58**

Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Crop Farm	9000371	1200 ft pivot irrigation	Pat Bowell
Dog and Cat Boarding Kennel	9000358	Dog and cat boarding kennel	Pat Bowell
Farm	9000359	Seasonal grazing livestock	Pat Bowell
Horse Farm	9000370	Grazing horses for breeding farm on north side of road. Probably private water well and old on−site wastewater system.	Pat Bowell
Interstate 70	9000353	Heavy interstate vehicular traffic	Pat Bowell
Natural Gas pipeline	9000363	Cross country gas line	Pat Bowell
Old Windmill	9000354	Old windmill	Pat Bowell
abandoned water well	9000360	Abandoned farmstead	Pat Bowell
dog kennel	9000008	greyhound farm and house	David Gurss
dog kennel	9000737	Concentration of several greyhound farms. All residences use onsite wastewater systems and private water wells.	David Gurss

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
farm	9000361	Seasonal Grazing livestock	Pat Bowell
rural residence	9000006	new house using a septic system	David Gurss
rural residence	9000201	on−site wastewater; private water well	David Gurss
rural residence	9000202	onsite wastewater system and private water well	David Gurss
rural residence	9000271	onsite wastewater system and private water well	David Gurss
rural residence	9000304	onsite wastewater system and private water well	David Gurss
rural residence	9000336	On site wastewater system and private water well	Pat Bowell
rural residence	9000356	Onsite Wastewater system and private water well	Pat Bowell
rural residence	9000357	Onsite Wastewater System and private water well	Pat Bowell
rural residence	9000362	Private water well and Residential On−site wastewater system	Pat Bowell
rural residence	9000365	Onsite Wastewater system, private water well and a few horses	Pat Bowell
rural residence	9000367	Private water well, residential on−site wastewater system and horse breeding farm	Pat Bowell

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Unknown	9000355	Occasional grazing livestock	Pat Bowell
Unknown	9000355	Occasional grazing livestock	Pat Bowell
Unknown	9000355	occasional grazing	Pat Bowell
Unknown	9000364	Onsite wastewater system and private water well	Pat Bowell
Unknown	9000366	Onsite wasterwater system and private water well	Pat Bowell

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**
Diversion Id's: **008, 007**
Status: **Accepted**
Submit Date: **2003−01−28 08:47:58**

Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **895**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Is there a contaminated well in Zone B?	unknown	David Gurss
Is there livestock confinement in Zone B?	The Randy White CAFO is located just outside of Zone B	David Gurss
Is there oil production in Zone B or C?	There is a symbol for an oil/gas well in Zone C (SE corner of 2400 Deer) but it is not included in the list. An oil/gas well is not visible from the side roads.	David Gurss
Are there unplugged, abandoned water wells present in Zone C?	Unknown, but likely, given Zone C covers over 12 square miles.	David Gurss
Are cropland nutrient management plans in place?	Most have plans in place because most of Zone C is in the Sand Springs Aquifer recharge area, which was an EQIP priority area. All cropland in Zone B have nutrient pesticide management plans.	David Gurss
Are cropland pesticide management plans in place?	Most have plans in place because most of Zone C is in the Sand Springs Aquifer recharge area, which was an EQIP priority area. There is no cropland in Zone B.	David Gurss
Is each confined livestock facility registered with KDHE?	Kohman feed lot (9000362) is not included in KDHE's CAFO list. Probably less than 300 head of livestock.	Pat Bowell

Public Water Supply:	**DICKINSON CO RWD 1**
Assessment Area:	**896**
Diversion Id's:	**001, 004, 005, 006, 002**
Status:	**Accepted**
Submit Date:	**2003−01−28 14:14:04**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication − phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi−quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **896**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score − SLS	41	35	43	40	39	38
SLS Range	Low	Low	Low	Low	Low	Low

A − Microbiolgical
B* − Nitrates
C* − Pesticides
B − Inorganic Compounds
C − Synthetic Organic Compounds
D − Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0−50	Low Susceptibility
51−80	Moderate Susceptibility
81−100	High Susceptibility

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **896**
Diversion Id's: **001, 004, 005, 006, 002**
Status: **Accepted**
Submit Date: **2003−01−28 14:14:04**

Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a100−foot radius around a groundwater well and a 1000−foot radius around a surface water intake. Zone B is a 2000−foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2−mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **DICKINSON CO RWD 1**
Assessment Area: **896**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
198104	Machinery, Except Electrical Manufacturing	3599	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2000518	Wolf Bros. Farms	A−SHCY−S002	C
2001986	Benfer, Kevin	A−SHCY−S010	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000341	Cramer Service	04182	C

Regulated Identified Contaminated Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Public Water Supply:	**DICKINSON CO RWD 1**
Assessment Area:	**896**
Diversion Id's:	**001, 004, 005, 006, 002**
Status:	**Accepted**
Submit Date:	**2003−01−28 14:14:04**

Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000519		10008	B
9000869	pastureland	10087	B
9000518	rural residence	10008	C
9000527		10008	C
9000520		10066	C
9000521		10066	C
9000522		10066	C
9000523		10066	C
9000524		10066	C
9000525		10066	C
9000526		10066	C
9000528		10066	C
9000936	rural residence	10066	C
9000937	rural residence	10066	C
9000940	rural residence	10066	C
9000941	rural residence	10066	C
9000942	rural residence	10066	C
9000943	rural residence	10066	C
9000939	City of Longford	10075	C
9000368	Welding	3548	C

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000369	Coop Assn	4221	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number or sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
0	0	1	0	1	0

A − Microbiolgical
B* − Nitrates
C* − Pesticides
B − Inorganic Compounds
C − Synthetic Organic Compounds
D − Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A − Microbiolgical **B** − Inorganic Compounds **B1** − Eutrophication − Phosphorous
B2 − Sedimentation **B*** − Nitrates **C** − Synthetic Organic Compounds
C* − Pesticides **D** − Volatile Organic Compounds

Potential Contaminants Listing

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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	B
"	"	"	D

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

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Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3599	Machinery, Except Electrical Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

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Ground Water Multiple Wells Analysis

A − Microbiolgical **B** − Inorganic Compounds
B* − Nitrates **C** − Synthetic Organic Compounds
C* − Pesticides **D** − Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	No	1	1	1	1	1	1
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
11	Are any non−farm home sites present in Zone B?	No	0	0	0	0	0	0
12	Do all the non−farm home sites have a water quality protection plan?	Yes	0	0	0	0	0	0
13	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
14	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	No	0	0	1	0	1	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	No	0	0	0	0	0	0
26	Do coarse textured soils predominate Zones A, B and C?	No	0	0	0	0	0	0
27	Is an irrigation well located in Zone B or C?	No	0	0	0	0	0	0
28	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
29	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	Yes	1	1	1	1	1	1
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
33	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
36	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
37	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

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Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Wolf Bros. Farms	2000518	This swine facility has no groundwater monitoring.	Nicole Fisher

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Cramer Service	3000341	The site is closed from a gasoline contamination in 1992. No groundwater contamination was suspected.	Nicole Fisher

Comments for Regulated Leaking Storage Tank Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Cramer Service	3000341	The underground tanks have been removed.	Wava Kramer

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
City of Longford	9000939	waste water lagoon	Wava Kramer
Coop Assn	9000369	grain elevator, fertilizer sales	Pat Bowell
Welding	9000368	Welding	Pat Bowell
pastureland	9000869	This site could possibly contaminate the public water supply.	Nicole Fisher
rural residence	9000518	Residential on−site wastewater system and private water well	Pat Bowell
rural residence	9000936	Septic System	Wava Kramer
rural residence	9000937	Septic System	Wava Kramer
rural residence	9000940	Septic System	Wava Kramer
rural residence	9000941	Septic system	Wava Kramer
rural residence	9000942	Septic System	Wava Kramer

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
rural residence	9000943	Septic System	Wava Kramer
Unknown	9000519	Abandoned farmstead. Possible abandoned well.	Pat Bowell
Unknown	9000520	Residential On−site wastewater system and private water well.	Pat Bowell
Unknown	9000521	Residential On−site wastewater system and private water well.	Pat Bowell
Unknown	9000522	Residentail On−site wastewater system and private water well.	Pat Bowell
Unknown	9000523	Residentail On−site wastewater system and private water well.	Pat Bowell
Unknown	9000524	Residentail On−site wastewater system and private water well.	Pat Bowell
Unknown	9000525	Residential On−site wastewater system and private water well.	Pat Bowell
Unknown	9000526	Residential On−Site wastewater system and private water well.	Pat Bowell
Unknown	9000527	ResidentialOn−site wastewater system and private waterwell.	Pat Bowell
Unknown	9000528	Residentail on−site wastewater system and private water well.	Pat Bowell

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

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Comments for Analysis Questions

Analysis Question	Question Comments	Author
Is there a contaminated well in Zone B?	If there is a contaminated well in Zone B, we don't know about it.	David Gurss
Have all livestock producers implemented water quality protection measures?	Unknown	David Gurss
Is there a railroad or major highway in Zone B or C?	Railroad in Zone C	David Gurss
Is a wastewater treatment facility in Zone B or C?	City of Longford wastewater lagoon just outside Zone C	David Gurss
Are there unplugged, abandoned water wells present in Zone C?	We assume there are abandoned unplugged wells in the 12.5 square mile area.	David Gurss
Are any commercial, industrial, or urban area present in Zone C?	City of Longford on outside edge of Zone C.	David Gurss
Does each industrial/commercial site and urban area have a water quality protection plan in place?	Probably not.	David Gurss
Do all the livestock producers have water quality protection measures in place?	Unknown	David Gurss
Are watershed water quality protection plans in place?	Unknown	David Gurss
Is gravel pack within 20 feet of any well surface?	Gravel pack depth is more than 20 feet in the new wells (4, 5, 6). Depth is unknown in older wells (1 2).	David Gurss